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|-------------------------------|------------------------|---------------------|--|
| Notice of Allowability | Application No. | Applicant(s) | |
| | 10/596,057 | DULAC ET AL. | |
| | Examiner | Art Unit | |
| | DEVANG R. PATEL | 1735 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 11/30/10.
2. ☒ The allowed claim(s) is/are 1-13,21 and 22.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- * Certified copies not received: ____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date ____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date ____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| <p>1. <input type="checkbox"/> Notice of References Cited (PTO-892)</p> <p>2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</p> <p>3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date ____</p> <p>4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material</p> | <p>5. <input type="checkbox"/> Notice of Informal Patent Application</p> <p>6. <input checked="" type="checkbox"/> Interview Summary (PTO-413), Paper No./Mail Date <u>12/9/10</u>.</p> <p>7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment</p> <p>8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance</p> <p>9. <input type="checkbox"/> Other ____.</p> |
|---|---|

/DEVANG R PATEL/
Examiner, Art Unit 1735

/Jessica L. Ward/
Supervisory Patent Examiner, Art Unit 1735

DETAILED ACTION

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Gregory Schlenz on 12/15/10.

The application has been amended as follows:

In claim 1, line 2, after "brazing" insert –of the aluminum alloy plates to form an assembly-.

In claim 1, line 4, before "plates", insert -aluminum alloy-.

In claim 1, line 12, replace "having no intentional addition" with –being free-.

Cancel claims 14-18.

Reasons for Allowance

Claims 1-13 and 21-22 are allowed.

The following is an examiner's statement of reasons for allowance:

Prior art fails to teach a process comprising fluxless brazing of an aluminum alloy plate at a temperature of between 580-620 °C and rapid cooling, in which the aluminum alloy plate consists essentially of a core alloy and an aluminum brazing alloy, wherein the core alloy and the brazing alloy include the claimed compositions, respectively.

Childree (US 2002/0041822) discloses fluxless brazing of an aluminum alloy plate at a temperature of between 580-620 °C, in which the aluminum alloy plate consists essentially of a core alloy and an aluminum brazing alloy. However, the brazing alloy of Childree requires intentional addition of sodium, which is excluded by the present claims; the presence of sodium is crucial to perform fluxless brazing in Childree.

Dockus (US 2003/0155409) teaches a process comprising fluxless brazing of an aluminum alloy plate at a temperature of between 580-620 °C, but in addition to the core alloy and the cladding layer, Dockus requires the plate to include a braze-promoting layer, which is critical to the brazing process. The present claims limit the aluminum alloy plate to only the core alloy and the brazing alloy (cladding). **Miller** (US 5863669) discloses a brazing process for assembly of aluminum alloy plates, in which the aluminum alloy plate consists essentially of a core alloy and an aluminum brazing alloy. However, Miller does not teach fluxless brazing or the brazing alloy having 0.01-0.5 wt% of at least one element from the claimed group. Moreover, no motivation was found for one of ordinary skill in the art at the time of the invention to modify prior art brazing methods so as to perform fluxless brazing of the aluminum alloy plate consisting essentially of a core alloy and an aluminum brazing alloy, wherein the core alloy and the brazing alloy include the claimed compositions.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Art Unit: 1735

Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DEVANG PATEL whose telephone number is (571)270-3636. The examiner can normally be reached on Monday thru Thursday, 8:00 am to 5:30 pm, EST..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jessica Ward can be reached on 571-272-1223. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Devang R Patel/
Examiner, Art Unit 1735

/Jessica L. Ward/
Supervisory Patent Examiner, Art Unit 1735